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Research Article

Developing Learning Videos Based on Learning Videos for Posyandu Cadres Using the Addie Method

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Abstract

Primary Care Transformation focuses on bringing health services closer to the community by improving and strengthening promotion and prevention for lifecycle targets, as well as strengthening local area monitoring. In supporting health transformation, especially primary care transformation, Posyandu (Integrated Health Posts), the skills of Posyandu cadres are being improved. Innovations are needed to facilitate Posyandu cadres' understanding and practice of 25 Posyandu cadre skills through the creation of learning videos.

The purpose of this research is to develop learning videos for Posyandu cadres using the ADDIE method (Analysis, Design, Development, Implementation, and Evaluation).

The results of the study indicate that there are stages in making the learning video, including: 1) Analysis Stage: innovation is needed in the form of a valid, efficient, and nationally standardized cadre skill evaluation model in the form of a learning video; 2) Design Stage: creating a cadre skill checklist table and creating a video script to facilitate recording; 3) Development Stage: the shooting process (video recording) is carried out based on a previously prepared script. This video recording process consists of several steps, such as: recording or shooting stage, narration stage with voice over, editing stage and validation stage; 4) Implementation Stage: a trial was conducted on Beringin Posyandu cadres; 5) Evaluation Stage: the assessment results from the health promotion validator obtained a score of 96% (very appropriate) and the material validator obtained a score of 94.6% (very appropriate); cadres strongly agree that the cadre skill learning video can increase their knowledge (82%) and provide encouragement for cadres to learn; and the perception of Posyandu cadres is very positive towards the Posyandu cadre learning video. Conclusion: There are learning videos for Posyandu cadres produced through the ADDIE steps. These videos can be used to improve the understanding and skills of Posyandu cadres.

Key words: Learning Videos, Posyandu Cadres, ADDIE Method

Introduction

Minister of Home Affairs Regulation Number 18 of 2018 concerning Village Community Institutions (LKD)/Village Customary Institutions (LAD) further regulates the institutional structure, management, and duties of each type of LKD. Article 7 states that the Integrated Service Post (Posyandu) is tasked with assisting the Village Head in improving village community health services[1]. This further clarifies the strengthening of the Integrated Health Post (Posyandu) as part of the existing village institutions. Its position, management, duties, and functions are regulated by Village Regulations, and its management is determined by a Village Head Decree[2].

To improve public health, the Ministry of Health is committed to implementing health transformation with six pillars: primary service transformation, referral services, human resources, health resilience, financing, and digital systems[2]. Primary Service Transformation focuses on bringing health services closer to the community by improving and strengthening promotion and prevention for life cycle targets, as well as strengthening local area monitoring[3]. Considering the efforts required to meet community health service needs, the efforts required by Posyandu to support health transformation, particularly primary service transformation, are as follows[4]:

1) Organize Integrated Health Posts (Posyandu) to provide services for the entire life cycle, including pregnant women, women in labor and postpartum, infants, toddlers, preschoolers, school-age children and adolescents, adults, and the elderly;
2) Provide a minimum of five cadres to serve at Posyandu and Sub-Community Health Centers. Various trained cadres from Programmatic Posyandu (Posyandu KIA, Adolescent, Elderly, and Posbindu PTM) will be coordinated as Posyandu LKD/LKK cadres, so that the need to provide broader services across the life cycle can be effectively implemented.

Therefore, it is necessary to improve the skills of Posyandu cadres as motivators, counselors, and recorders to be able to provide services for all life cycle targets through 25 basic cadre skills, including[5]: 1) Posyandu Management Skills, which have 4 types of skills; 2) Infant and Toddler Skills, which have 7 types of skills; 3) Pregnant and Breastfeeding Skills, which have 6 types of skills; 4) School-Age and Adolescent Skills, which have 3 types of skills; and 5) Productive Age and Elderly Skills, which have 5 types of skills. To make it easier for Posyandu cadres to understand the 25 basic cadre skills, there is a need for learning innovation. One way is through the creation of cadre skills learning videos using the ADDIE model stages[6].

The ADDIE model, as the name suggests, is a model that involves stages of model development with five steps/phases of development including: Analysis, Design, Development or Production, Implementation or Delivery, and Evaluations. 4 The ADDIE model was developed by Dick and Carry in 1996 to design a learning system consisting of 5 stages, as follows[7,8]:

1) Analysis: analyzing the need for new product development (models, methods, media, teaching materials) and analyzing the feasibility and requirements for product development. Analysis of new products is necessary to determine the feasibility of implementing the product;
2) Design: The design activity in the ADDIE research and development model is a systematic process that begins with designing the concept and content of the product. At this stage, the product design remains conceptual and will form the basis for the development process in subsequent stages;
3) Development: includes the implementation of the previously created product design. In the previous stage, a conceptual framework for implementing the new product was developed;
4) Implementation: Product implementation in the ADDIE model is intended to obtain feedback on the product being created/developed. Initial feedback (the beginning of the evaluation) can be obtained by asking questions related to the product development objectives. Implementation is carried out based on the previously created product design;
5) Evaluation: to provide feedback to product users so that revisions can be made based on the evaluation results or needs that have not been met by the product. The ultimate goal of evaluation is to measure the achievement of development objectives.

The aim of this research is to develop a learning video for Posyandu cadres using the ADDIE method (Analysis, Design, Development, Implementation, Evaluation).

Method

This study employed a mixed methods approach, combining qualitative and quantitative approaches[9,10,11]. The study took place at the Mamboro Community Health Center in Palu City. The subjects were active Posyandu (Integrated Service Post) cadres from 14 Posyandus within the Mamboro Community Health Center's work area. Eight Posyandu cadres from Beringin used the ADDIE method to pilot the development of a learning video for Posyandu cadres. Data collection in this study employed a questionnaire distributed to the sample. The research instrument was then assessed and validated by subject matter and media experts. After validation by the subject matter and media experts, it was revised to obtain an appropriate media. Data analysis included analysis of the feasibility test results by the subject matter experts, media experts, and research respondents using a questionnaire. For the qualitative study, the researchers conducted in-depth interviews with respondents (Posyandu cadres) regarding their perceptions of the Posyandu cadre learning video[12].

Results and Discussion

This research and development used the Research & Development (R&D) method and the ADDIE Development Model developed by Robert Maribe Branch (2011)[9,13]. Based on observations and interviews, data showed that Posyandu (Integrated Service Post) cadres had received information about 25 cadre skills from the Posyandu (Integrated Service Post) staff. However, they found it difficult to understand due to time and skill constraints. The information presented in PowerPoint presentations was uninteresting and difficult to understand. Furthermore, most Posyandu cadres were primary and secondary school graduates and over 40 years old. Therefore, it was necessary to develop skills-based learning videos for Posyandu cadres that were easy to understand (because they were hands-on) and could be played at any time.

The stages in creating skills-based learning videos included:

1. Analysis Stage

At this stage, the researcher conducted several analyses, such as:

1.1. Problem Analysis: The Integrated Health Service (Posyandu) at Mamboro Community Health Center (Puskesmas) has begun operation, but its implementation has not been accompanied by systematic training referring to

the 25 basic skills of cadres as stipulated in the latest guidelines. Mamboro Community Health Center (Puskesmas) has difficulty providing information that is easily understood and practiced by all Posyandu cadres. Therefore, an innovation is needed in the form of a valid, efficient, and nationally standardized cadre skills evaluation model. This model is expected to be used as a tool to comprehensively assess cadre competency and serve as a reference for future cadre capacity development.

1.2. Subject Characteristics Analysis: In this study, Beringin Posyandu was purposively selected as the study location due to its strong track record of achievement, such as winning the Palu City-level Posyandu competition and being active in implementing various innovative programs, particularly in services for pregnant and breastfeeding mothers.

1.3. Learning Media Analysis: Researchers designed and developed a video model for teaching cadre skills aimed at improving the competency of Posyandu cadres in Mamboro Village. Video was chosen because of its advantages in presenting information visually and audibly, allowing cadres to directly observe the stages of service in concrete detail.

1.4. Content/Material Needs Analysis: Based on (Ministry of Health, 2023), cadre skills encompass 25 skills, including: 1) Posyandu management skills consisting of 4 (four) skills; 2) Infant and Toddler skills consisting of 7 (seven) skills; 3) Pregnant and Breastfeeding skills consisting of 6 (six) skills; 4) School-Age and Adolescent skills consisting of 3 (three) skills; and 5) Adult and Elderly skills consisting of 5 (five) skills.

The benefit of analysis in the ADDIE method is to systematically understand learning needs, audiences, and objectives, resulting in an effective and targeted learning program. The analysis phase ensures that all important aspects, such as skills and knowledge gaps, are identified before design begins, preventing wasted resources and missing crucial elements[14].

The main benefits of the analysis phase in the ADDIE method include: identifying learning needs, understanding the audience, defining clear objectives, determining appropriate strategies, reducing risk and waste, and providing a solid foundation for design and development. The results of the analysis phase provide a solid foundation for subsequent design and development phases, ensuring that all instructional elements are built on a solid understanding of the context[15].

2. Design Stage

After the researcher conducted several stages of analysis, the product design stage was carried out. At this stage, the researcher designed learning media in the form of a video, through several stages:

2.1. Creating a Posyandu cadre skills checklist: At this stage, the researcher used the Ministry of Health's reference for assessing Posyandu cadre skills.

2.2. Creating a video script: At this stage, the researcher created a script for the learning video to be used during recording.

The benefits of the Design stage in the ADDIE model are that it provides structured guidance for achieving predetermined learning objectives, ensures alignment between objectives, content, and assessment, and facilitates continuous improvement through its literary nature. This stage establishes a framework that will guide subsequent stages to produce an effective and efficient learning experience.

The main benefits of the Design stage in the ADDIE model: aligning objectives, content, and assessment; providing structured guidance; providing a clear guide or framework for subsequent steps; determining strategies and methods; formulating learning strategies; facilitating continuous improvement that allows the design to be refined and improved at each stage based on feedback, resulting in a better final product over time; ensuring consistent quality that helps improve efficiency and consistency in the overall quality of course development[6,16].

3. Development Stage

After the design process is complete, researchers proceed to the product development or production stage. At this stage, the shooting (video recording) is carried out based on the previously prepared script. The video recording process consists of the following steps:

3.1. Recording or Shooting Stage: At this stage, researchers use a shot list to ensure that all storylines and scenes align with the planned scenario. Researchers ensure that each scene is properly recorded according to the script, both visually and audio.

3.2. Narration Stage with Voice-Over: After completing the video recording process, researchers proceed to the next production stage, namely creating a narrative using a voice-over technique. This narrative is created based on a script that has been adjusted according to the cadre skills checklist. The voice-over script is aligned with the visual flow to provide appropriate emphasis for each scene. Once the script is complete, the narration is recorded and edited to match the sequence and length of the scenes in the video.

3.3. Editing Stage: After the entire production process is complete, the researcher performs the video editing or processing stage. The recorded video is then reassembled according to the planned scenario flow. In this stage, the researcher combines all visual elements, text, audio, and documentation from interviews with informants.

3.4. Validation Stage: The resulting video is then tested and validated by experts to ensure its content complies with the Posyandu cadre service standards. Analysis of the validation data sheet includes analysis

of the validation sheet results by lecturers/practitioners in their respective fields (validators). Data regarding the quality and suitability of the learning videos is obtained through validators. There are two lecturers/practitioners as validators in this study: 1) Health Promotion Division (for educational media); 2) Technical Division (for learning video content).

The development phase of the ADDIE method enables the design of learning materials to become a reality, enabling the development of various media (such as learning videos) that align with previous analysis and design. The primary benefit of the development phase is the production of effective, systematic, and customizable learning products thanks to collaboration with users, data-driven development, and the flexibility to create engaging and interactive materials[17].

4. Implementation Stage

The implementation phase is a crucial part of the ADDIE model-based learning media development process. The primary objective of this phase is to evaluate the extent to which the designed and developed learning video media product can be implemented effectively, as well as the extent to which it is understood, accepted, and utilized by the target users, namely the Posyandu (Integrated Health Post) cadres.

In this study, the Product Implementation phase was conducted through a trial of the learning video with Posyandu cadres. A limited trial was conducted with a number of purposively selected qualitative informants. These informants included the Head of the Community Health Center, the Posyandu Program Manager, and active cadres from the working area of the Mamboro Community Health Center Technical Implementation Unit (UPTD) in North Palu District, Palu City. The informants were selected based on their direct involvement in the implementation of the Posyandu program, both in managerial and technical capacities. In other words, the informants represented stakeholders who understood the operational aspects and challenges in the field.

The implementation process was carried out by showing the developed learning videos to informants and then asking them to provide open feedback on various aspects, including the content, visual presentation, narrative structure, language used, and the relevance of the content to the actual skills needed by Posyandu cadres.

The benefits of implementing the ADDIE method include ensuring that the learning program is systematic, measurable, and effective. Good implementation ensures that all aspects, such as facilitators, materials, and supporting technology, are ready and accessible, so that optimal learning outcomes can be achieved and gaps in understanding can be identified and addressed sustainably[18].

Other benefits of this implementation include: systematic and structured application of learning videos, testing the effectiveness and practicality of the videos, ensuring the readiness of all parties, particularly the community health center (Puskesmas) and Posyandu cadres, and facilitating continuous improvement[8].

5. Evaluation Stage

At this stage, researchers evaluated the quality of the media (video), the suitability of the material, and the participants' perceptions of the learning videos provided. The results are as follows:

5.1. Validator Team's Response to the Participants' Learning Videos

Based on the assessment results from the health promotion validator (for educational media), the developed learning video received a score of 72 for the media aspect. Therefore, the calculated feasibility percentage is :

$$P = \frac{\Sigma X}{\Sigma X_i} \times 100\%$$

$$P = \frac{72}{75} \times 100\%$$

P = 96% (Very worthy)

The health service validator's assessment of the developed learning video (for materials) yielded a score of 71 for the media aspect. Therefore, the calculated feasibility percentage is :

$$P = \frac{\Sigma X}{\Sigma X_i} \times 100\%$$

$$P = \frac{71}{75} \times 100\%$$

P = 94,6% (Very worthy)

Information :

P =	Percentage sought
ΣX =	Average value
ΣX_i =	Maximum total score
100 =	Constant number

The results of the validation stage show that the learning video is very suitable for testing on the target audience.

5.2. Posyandu cadres' perceptions of the cadre learning video

The questionnaire distributed to respondents showed the following results :

Table 1: Posyandu cadres' responses to the Posyandu cadre learning video

Criteria	Score (%)				
	1	2	3	4	5
Attractive appearance	0	0	12	18	70
The writing is easy to read	0	0	8	30	62
Appropriate material content	0	0	10	22	68
Material is easy to understand	0	0	10	15	75
Encourage learning	0	0	6	14	80

Increasing cadre knowledge	0	0	6	12	82
Improving cadre skills	0	0	12	26	62
Can help cadres	0	0	14	22	64

Description : 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Agree, 4 = Agree
5 = Strongly Agree
The data in the table above shows that cadres strongly agree that the cadre skills learning video can increase their knowledge (82%) and provide encouragement for cadres to learn.

5.3. Posyandu cadre perceptions of cadre learning videos

In-depth interviews revealed minimal information about the 25 skills for cadre training. Two senior cadres had previously heard about the 25 skills when they attended a Posyandu cadre meeting at the Mamboro sub-district office. The speakers were Posyandu staff from the Mamboro Community Health Center.
When asked about the training model using learning videos, most cadres agreed that the videos were very helpful in facilitating cadre understanding, provided they were frequently opened and put into practice.
"It's easier, because it's like watching a movie. As long as you watch it often..." (Mrs. Nov, 41 years old)
"For older people like me, it's easier. The important thing is to keep watching..." (Mrs. Az, 52 years old)
"...yes, it's good. I watch it often and practice it..." (Mrs. Ros, 45 years old)
Several cadres mentioned challenges in maintaining discipline while watching learning videos. They said they found it more engaging to watch entertainment on their Android phones.
The benefits of evaluation using the ADDIE method include assessing learning videos, assessing the effectiveness of trials, identifying video weaknesses and areas for improvement, and providing feedback for the next development cycle.

Conclusion

The learning videos for Posyandu cadres, produced through the ADDIE (Analysis, Design, Development, Implementation, Evaluation) process, can be used to improve the understanding and skills of Posyandu cadres. The validator team gave a score of 96% (very good) for the media aspect and 94.6% (very good) for the material aspect. Posyandu cadres gave a positive assessment of the learning videos and strongly agreed that the skills-based learning videos increased their knowledge and motivated them to learn.

Suggestion

The use of learning videos should be implemented for all Posyandu cadres. To increase their effectiveness, the videos should be sent to each cadre's mobile phone so they can watch, study, and practice at any time.

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